

Status of the Genus *Spalgis* Moore with taxonomic notes on the type species, *Spalgis epeus* (Westwood) in the Indian Himalaya

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Abstract

As per the earlier records, genus *Spalgis* Moore is represented by two species viz., *epeus* Westwood and *baiongus* Cantlie and Norman in India, the latter one being very rare and restricted to Assam. During the repeated surveys undertaken in an ICAR, New Delhi sponsored project, only the type-species of this genus, *Spalgis epeus* (Westwood) has been reported from the Himalayan region in India. The diagnosis of the genus has been updated by inclusion of the characters of the male and the female genitalia. The survey work shows that the species is quite rare in the Himalaya.

Keywords: *Himalaya, male genitalia, female genitalia, Lycaenidae, Spalgis.*

Introduction

From the Indian region, about 1438 species of butterflies have been documented and out of these, more than 438 species belong to the family Lycaenidae which makes about 30% of this total butterfly diversity (Evans, 1932; Wynter-Blyth, 1957; Haribal, 1992; Khoshoo, 1994 and Kehimkar, 2008). Owing to small size, less attractive colouration and difficulty in identification, the butterflies of family Lycaenidae have not been adequately explored and more so the taxonomic account of different taxa warrants updating. The genus *Spalgis* Moore, is represented by eight species viz., *epeus* Westwood, *baiongus* Cantlie and Norman, *takanamii* Eliot, *asmus* Parsons, *jacksoni* Stempffer, *lemolea* Druce, *pilos* Druce and *tinting*a Boisduval in the Oriental and the African regions (d' Abrera, 1986; Bridges, 1988 and Eliot, 1992).

Out of these, the former two species have been reported from India and according to Cantlie and Norman (1960) and Cantlie (1963), the species, *baiongus* restricted to Assam is very rare one. Further, d' Abrera (loc. cit.), who advocated the taxonomic revision of the other species i.e., *epeus* Westwood has reported eight subspecies viz., *e. epeus* Westwood (India, Ceylon to Peninsular Malaya, Nicobars, Mergui islands), *e. nubilus* Moore (Andamans, Pulau Tiomam), *e. flangola* Kheil (Borneo, Sumatra, Nias), *e. titius* Fruhstorfer (Java, Bali, Lombok, Sumba, Sumbawa), *e. substrigata* Snellen (Sulawesi), *e. strigatus* Semper (Southern and Central Philippines, Palawan), *e. semperi* Fruhstorfer (Northern Philippines and Luzon) and *e. dilama* Moore (Taiwan) under it from the respective localities / areas from the Oriental region.

Observations

Genus *Spalgis* Moore

Common name: The Apefly

Moore, 1879, Proc. zool. Soc. Lond.: 137; de Nicéville, 1890, Butts India Burmah Ceylon 3: 54; Evans, 1932, Ident. Indian Butts (2nd 3d.): 213; Cantlie and Norman, 1960, J. Bombay nat. Hist. Soc. 57 (2): 424; Cantlie, 1963, Lyc. Butts Revised: 29.

Type-species: *Gerydus epeus* (Westwood)
Westwood, [1851], In Gen. diurn. Lep. (2): 502.

Generic diagnosis: eyes smooth; labial palpi porrect, second segment laterally compressed, third segment acuminate; antenna shorter than half the length of forewing, gradually thickening to slender club, nudum extends deep into flagellum; each leg with tibia shorter than femur, the latter hairy, terminal tibial spurs absent; forewing with 11 veins, stalk of veins R_3+R_5 separated very briefly before end cell; male genitalia with an undivided hood-like uncus, brachia sharply curved, tapering into acute apices, vinculum moderately wide, saccus obsolete, each valva large, bottle-shaped laterally, aedeagus moderate, slender, subzone longer than suprazone, ductus ejaculatorius enters dorsad, coecum elongated, rounded; female genitalia with genital plate not developed, ductus seminalis enters dorsad at base of ductus bursae, corpus bursae shorter, egg-shaped, a pair of spicule shaped signa present, apophyses anteriores small, apophyses posteriores moderately long, papilla analis sparsely pilose.

Spalgis epeus (Westwood)

Common name: The Apefly

Westwood, [1851], In Gen. Diurn. Lep. 2: 502 (*Gerydus*); Moore, 1879, Proc. Zool. Soc. Lond.: 137 (*Spalgis*); de Nicéville, 1890, Butts India Burmah Ceylon 3: 55 (*Spalgis*); Cantlie, 1963, Lyc. Butts Revised: 30 (*Spalgis*).

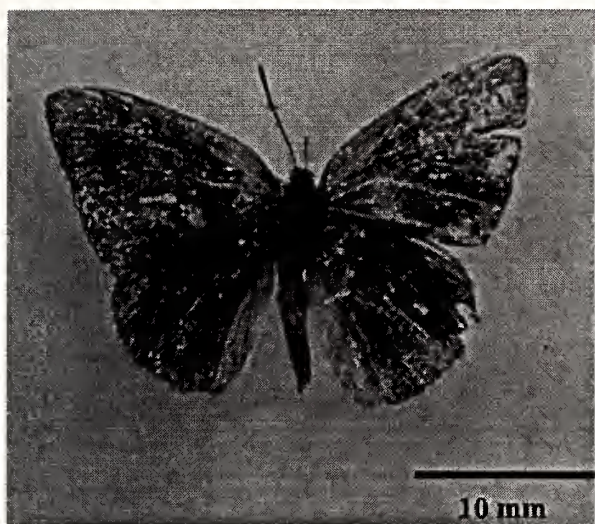
Spalgis epeus epeus (Westwood)

Westwood, [1851], Gen. Diurn. Lep. 2: 502 (*Gerydus*).

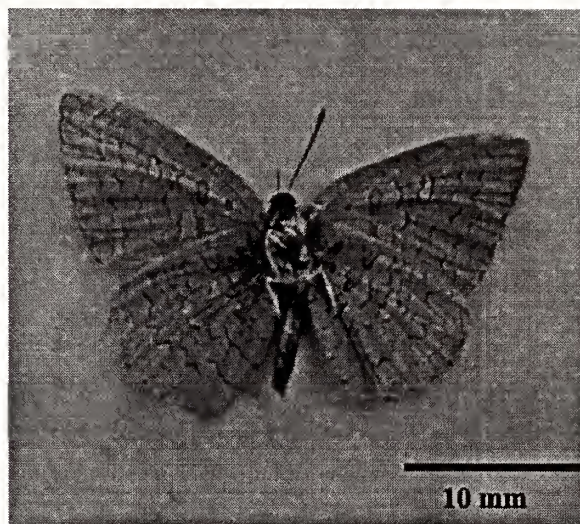
Male genitalia: Symmetrical, relatively much smaller sized, well sclerotized; uncus undivided, with apex rounded, each lateral portion broad, rectangular, pilose; brachia short, laterally compressed, hook-shaped, gradually tapering to acute apices; subscaphium not developed; tegumen broad, triangular band shaped; lateral windows deep; vinculum long and narrow, with upper portion produced to oval lateral flaps behind tegumen; saccus obsolete; each valva large, bottle-shaped laterally, costae of both sides joined by a median semimembranous ridge, sacculus broad, band-shaped, apical portion of each sharply divided into teeth like halves, pilose; juxta unique, comprising two curved attenuate processes extending well beyond valvae; aedeagus moderate, straight, slender, with subzone longer than suprazone, apex narrower and ventrally produced, vesica inconspicuous, subzone with an oblique short opening for bulbus ejaculatorius, the latter siphon-shaped, ductus ejaculatorius enters dorsad, coecum elongated, with laterally compressed rounded apex.

Female genitalia: Lodix rectangular with small moderately sclerotized patches at posterior angles, otherwise membranous; genital plate not developed; ductus seminalis enters on dorsal side at base of

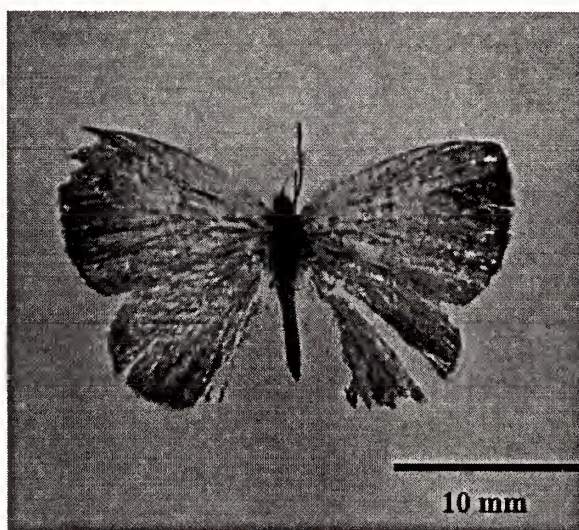
Status of the Genus *Spalgis* with taxonomic notes on the type species, *Spalgis epeus*



(Male, dorsal view)

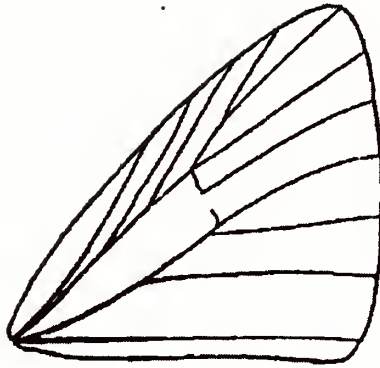


(Male, ventral view)

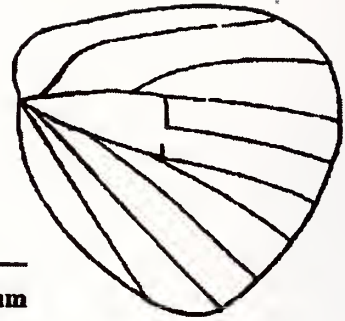


(Female, dorsal view)

Spalgis epeus epeus (Westwood)

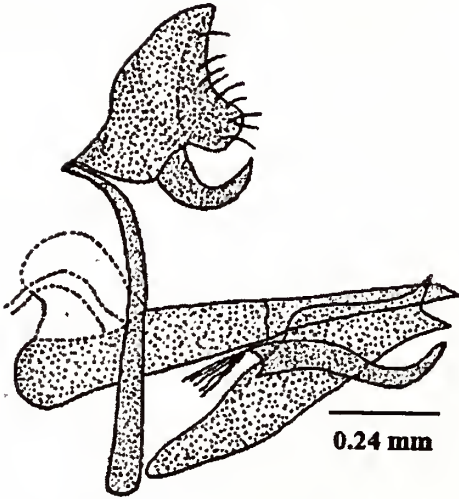


Venation of forewing



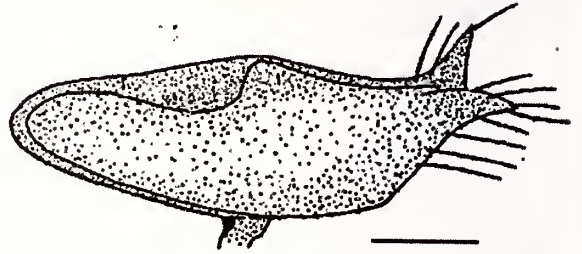
2.14 mm

Venation of hindwing



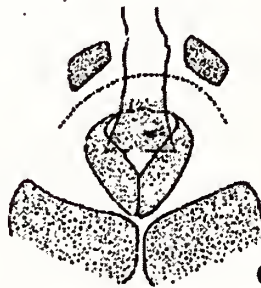
0.24 mm

Male genitalia (lateral view)



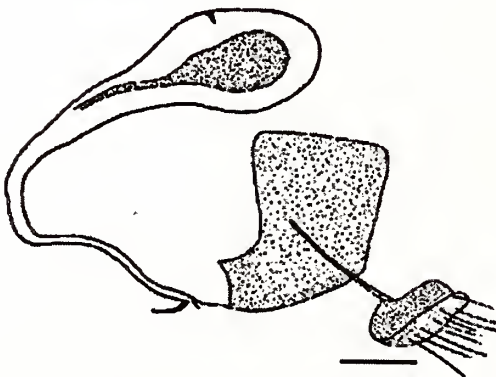
0.16 mm

Left valva (inner view)



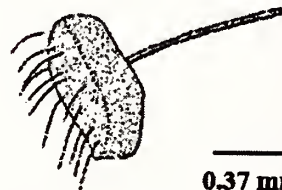
0.16 mm

Area of 8th sternum



0.37 mm

Female genitalia (lateral view)



0.37 mm

Papilla analis

Spalgis epeus epeus (Westwood)

ductus bursae; the latter opens in funnel shaped semimembranous pouch at base, gradually broadens and goes imperceptibly into corpus bursae; corpus bursae egg-shaped, membranous, shorter than ductus bursae, a pair small spicule-shaped signa present in middle; proximal margin of 8th tergum deeply excavated laterally; apophyses posteriores moderate, laterally compressed, almost straight structures, papilla analis suboval, with basal half sclerotized, distal half quite membranous, sparsely pilose.

Forewing length: Male, 11 mm; Female, 12 mm.

Material examined: Assam: 1 ♀, 14.V.95, Bashistha, 250 m ASL, Kamrup. West Bengal: 1 ♂, 19.V.95, Sivoke, 270 m ASL, Darjeeling.

Range: 250-270 m ASL.

Old distribution: Ceylon, South India to Bengal, Kumaon to Burma, Nicobars.

Larval food: Carnivorous on scale insects and mealy bugs (Coccidae) (Sevastopulo, 1973).

Remarks

During the course of surveys in the Himalaya, one male and one female of this type-species, collected from above mentioned localities have been identified from the relevant literature sources (de Nicéville, 1890; Bingham, 1907; Evans, 1932; Peile, 1937; Wynter-Blyth, 1957; Cantlie, 1963 and d' Abrera, 1986). The material has also been compared with the reference collections lying at I.A.R.I., New Delhi. The male genitalia of the species agrees with an account of the same given by Stempffer (1957) and Eliot (1992). However, the description of various constituent parts of the male genitalia need elaboration. Besides doing

so, an account of the female genitalia is also furnished for the first time. Further, the species, under reference, is the type-species of the genus *Spalgis*, proposed by Moore (1879) on apparently superficial characters such as wing shape and presence of vein R₃. Accordingly, the diagnosis of the said genus has been updated by inclusion of the characters of the male and the female genitalia. It may also be pointed out that except for Cantlie (loc. cit.) and Bridges (1988), workers like Moore (loc. cit.), de Nicéville (loc. cit.), Bingham (loc. cit.), Evans (loc. cit.), Peile (loc. cit.), Wynter-Blyth (loc. cit.), Stempffer (loc. cit.), d' Abrera (loc. cit.), Seki *et al.* (1991) and Eliot (loc. cit.) have spelled the species as *epius* Westwood rather than *epeus* Westwood. The present survey work shows that the species is quite rare and is represented by its nominotype in India.

Acknowledgements

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